INTELLICARB
ICE COOLED DISPENSER

CB1522 (75lbs), CB2323 (80 & 100lbs), and CB3023 (130lbs) with 8X4 carbonator (80lbs) and 12X4 carbonator (75, 100, & 130lbs), with Flexible manifolding.

Installation Manual

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Revision: D
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INTELLICARB DRINK DISPENSERS INSTALLATION GUIDE

The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

To inquire about current revisions of this and other documentation or for assistance with any Cornelius product contact:

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SAFETY

SAFETY INSTRUCTIONS

Read and follow all safety instructions

Read and follow all safety instructions in this guide and on the machine (decals, labels, and laminated cards).

Read and understand all applicable OSHA (Occupation Safety and Health Administration) safety regulations before operating the machine.

Recognize safety alerts

This is the safety alert symbol. When you see it in this guide or on the machine be alert to the potential of personal injury, or damage to the machine.

Different types of alerts

There are three types of safety alerts:

DANGER — Indicates an immediate hazardous situation which if not avoided WILL result in serious injury, death, or equipment damage.

WARNING — Indicates a potentially hazardous situation which, if not avoided, COULD result in serious injury, death, or equipment damage.

CAUTION — Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury or equipment damage.

SAFETY TIPS

- Carefully read all safety messages in this guide and safety signs on the machine.
- Keep safety signs in good condition and replace missing or damaged safety signs.
- Learn how to operate the machine and how to use the controls properly.
- Do not let anyone operate the machine without proper training.
- Keep your machine in proper working condition and do not allow unauthorized modifications to the machine.

QUALIFIED SERVICE PERSONNEL

CAUTION — Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES.

CO_2 (CARBON DIOXIDE) WARNING

WARNING — CO_2 Displaces Oxygen. Strict Attention **must** be observed in the prevention of CO_2 gas leaks in the entire CO_2 and soft drink system. If a CO_2 gas leak is suspected, particularly in a small area, **immediately** ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentration of CO_2 gas will experience tremors which are followed rapidly by loss of consciousness.

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SHIPPING AND STORAGE

CAUTION — Before shipping, storing, or relocating the Unit, syrup systems must be sanitized and all sanitizing solution must be purged from the syrup systems. All liquids, after sanitizing, must be purged from the unit. A freezing ambient environment will cause residual sanitizing solution or water remaining inside the Unit to freeze resulting in damage to the internal components.

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SYSTEM OVERVIEW

DROP-IN PRODUCT OVERVIEW

The Drop-In IntelliCarb consists of the following:

- Front inlet fittings
- 75 lbs., 80 lbs., 100 lbs., and 130 lbs. capacity ice bin
- Foamed polyurethane insulation
- Key lock switch
- 9 3/4 inch cup clearance
- Extended drip-tray for cup staging, removable for cleaning
- High capacity 11/18 cold plate, 5-2-1 configuration
- All fittings are 3/8 inch
- Supports UF-1 fast flow (3.0 oz./sec.), UF-1 Ultra flow (4.5 oz./sec.), and UFB 2.0 - 4.0 valves
- Improved ability to clean outlet line area
- Lighted and non-lighted merchandiser options
- Optional cabinet stand for free standing installations.

Drop-in Unit

SPECIFICATIONS

Drop-In Dimensions (CB1522)

Counter Top Cutout . . . . . 15 1/4 x 23 1/4 inches
Height above counter . . . . . 18 inches
Width . . . . . 15 inches
Depth . . . . . 23 inches
Shipping weight (approx) . . . . . 235 pounds

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Drop-In Dimensions (CB2323)

Counter Top Cutout . . . . . .23 1/4 x 23 1/4 inches
Height above counter . . . . . .18 inches
Width . . . . . .23 inches
Depth . . . . . .23 inches
Shipping weight (approx) . . . . . .235 pounds

Drop-In Accessories — Optional

Lighted marquee merchandiser 166208004
Cabinet stand 165492000

Custom Compact Dimensions

Counter Top Cutout . . . . . .23 1/4 x 23 1/4 inches
Height above counter . . . . . .18 inches
Height of Merchandiser . . . . . .8 inches
Width . . . . . .23 inches
Depth . . . . . .23 inches
Shipping weight (approx) . . . . . .235 pounds

Drop-in Dimensions (CB3023)

Counter Top Cutout . . . . . .30 1/4 x 23 1/4 inches
Height above counter . . . . . .18 inches
Width . . . . . .30 inches
Depth . . . . . .23 inches
Shipping weight (approx) . . . . . .285 pounds

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INSTALLATION

CAUTION — Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES.

INSTALLATION REQUIREMENTS

Requirements Summary

Weight:.....counter must be level and able to support 450 lbs.

Environment:..... indoor installation only

Temperature:..... 40 to 100° F ambient temperature

CO_2:..... 75 psi at unit

Syrup: ..... 60 psi. min,.70 – .75 ounces per sec.,
.....not to exceed 3.75 oz/sec Finished Product Flow Rate (.6 gpm) at unit

Water pressure: .....60 psi max. at pump

Electrical: ..... see name plate

Water volume.....125 gph

Product supply beverage tubing ..... .375 min.

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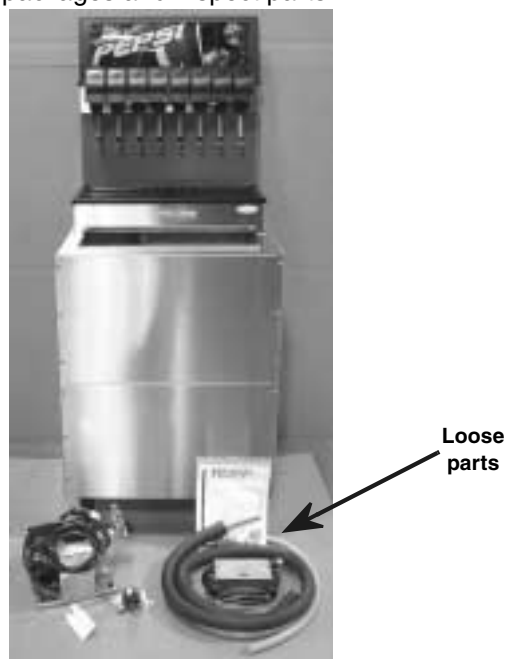
DELIVERY INSPECTION AND UNPACKING

Inspection

Upon delivery inspect the unit for damage or irregularities and immediately report problems to the delivering carrier and file a claim with that carrier.

1. Open loose parts packages and inspect parts.



Make sure all items are present.

Part Name	Drop-In	
	P/N	Qty.
Pump &motor assy.	629087457	1
4" legs	n/a	n/a
Clamps	Oetiker	n/a
Drain pan drain line	167090002	1
Cold plate drain line	167467072	1
Merchandiser assy.	166167010	1
Transformer	630000601	1
Ftg-3/4 Soc x 3/4 fpt	n/a	n/a
Ftg-3/4 mptx1" barb	n/a	n/a

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INSTALLATION PROCEDURE

Back Room Package

TUBING

NOTE: Tubing, hoses, and cabling can come from underneath or in back of the unit.

1. Run bundled tubing from back room to dispenser location.

WATER

1. Install water filter system between booster pump and water pressure regulator.

p/n 605620
Pre filter

p/n 605625ST
Main filter

p/n 605600
Polyphosphate feeder (Ice Maker water)

NOTE: Recommended shut off valve be installed on outlet side of filter system.

2. Run water line from source to inlet connection on booster pump.
3. Connect water line from booster pump outlet to water filter system inlet.

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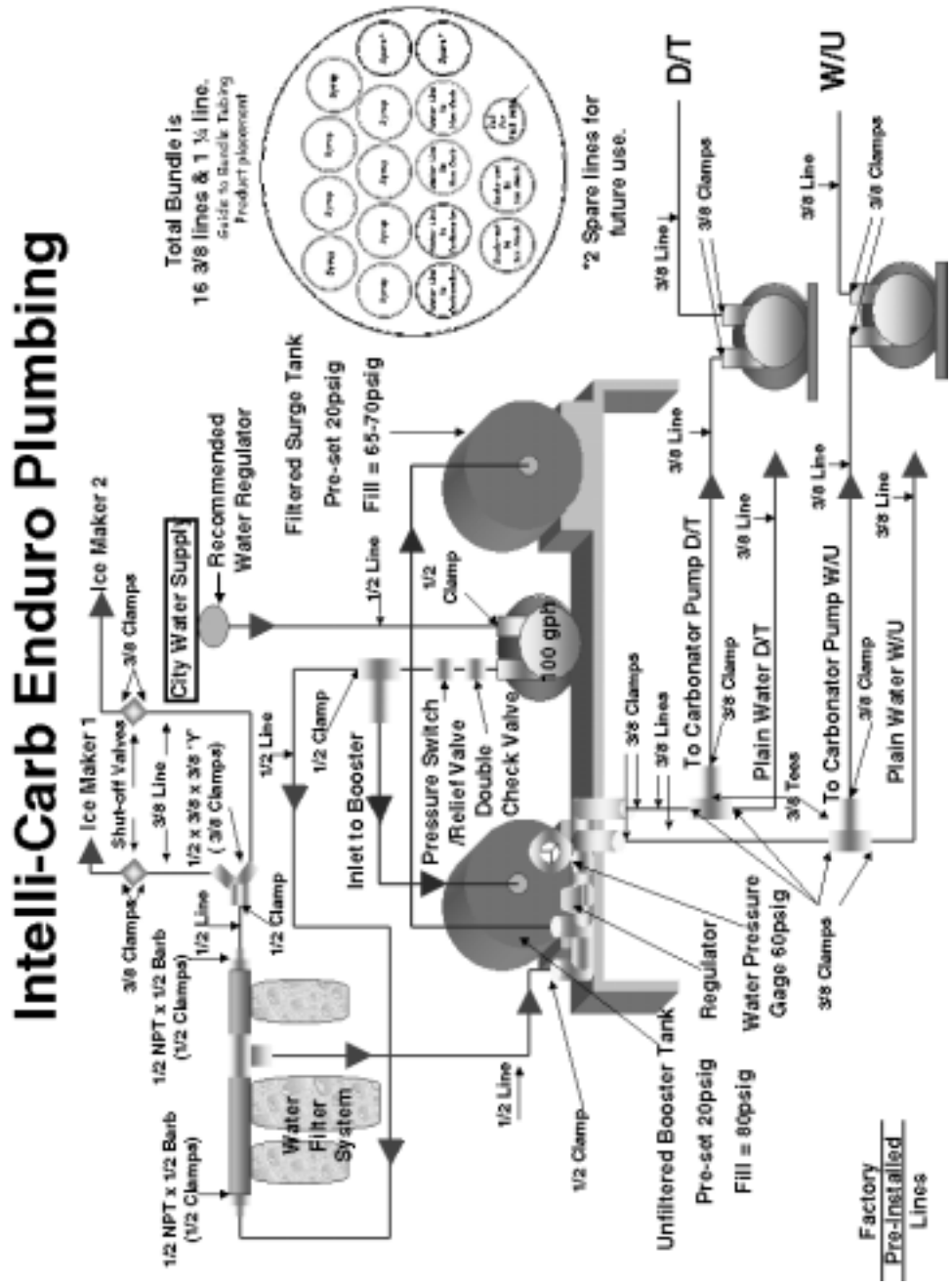

NOTE: Do not route beverage make up water through polyphosphate feeder.

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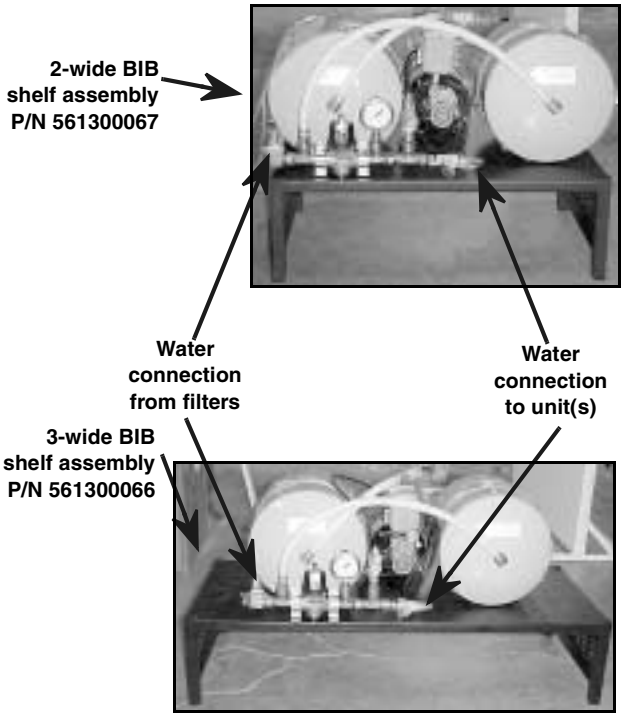
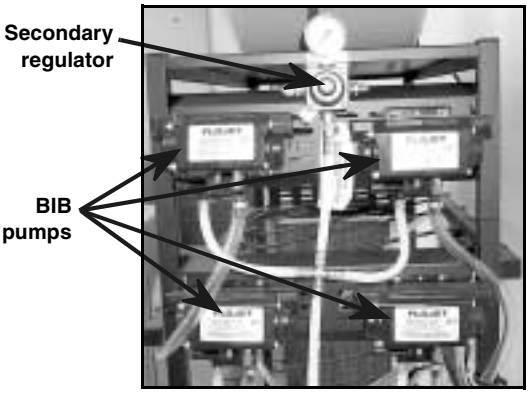
4. Connect from water filter system outlet to water regulator assembly and tee to surge tank.

5. Connect water lines from manifold outlet to water line going to each dispenser.


2-wide BIB shelf assembly P/N 561300067
Water connection from filters
Water connection to unit(s)
3-wide BIB shelf assembly P/N 561300066

SYRUP

6. Connect syrup lines from bundled tubing to BIB pump outlet fitting.



HIGH PRESSURE CYLINDER CO_2

1. Connect primary regulator manifold to high pressure cylinder CO_2 source and connect tubing to the secondary regulator mounted on the side of BIB rack.
2. Connect one CO_2 line from the bundled tubing to the primary regulator manifold on CO_2 source to supply each dispenser.

BULK CO_2 TANK

1. Connect bulk CO_2 tank to the secondary regulator mounted on the side of BIB rack. **DO NOT USE PRIMARY REGULATOR WITH BULK CO_2 TANKS.**

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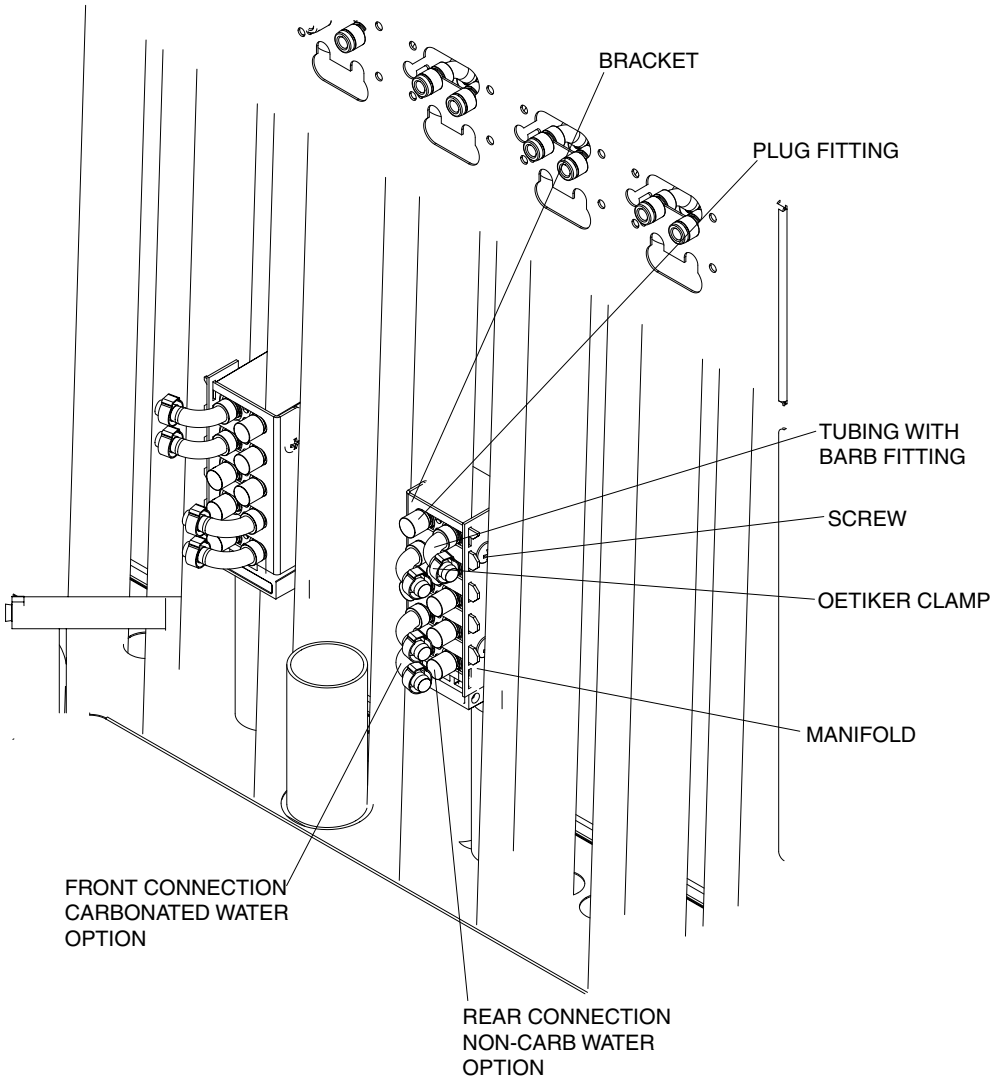
1522-2323-3023 DROP-IN

Conversion Instructions for Valves Connected into Manifold

1. Remove the cup rest, front panel, and drip tray.
2. Remove insulation pad, 2 screws, and bracket (as shown below).
3. Pull out the plug fitting and tubing with barb fitting of the desired valve for conversion.
4. Place tubing with barb fitting into desired outlet on the manifold.
5. Replace plug fitting in open outlet.
6. Reassemble bracket, 2 screws, and insulation pad.
7. Reassemble drip tray, front panel, and cup rest.



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Conversion Instructions for 1522 Valve #1 from Carb to Non/Carb

1. Remove the cup rest, front panel, and drip tray.
2. Remove insulation pad, 2 screws, and bracket (as shown above on page 10).
3. Pull out a plug fitting from the rear connection of the manifold.
4. Disconnect soda line from valve #1.
5. Assemble straight fitting and oetiker clamp to soda line from valve #1 (as shown on page 10).
6. Assemble soda line from valve #1 to manifold.
7. Assemble hose plug and clamp oetiker to soda line valve #1 (as shown on page 10).
8. Reassemble bracket, 2 screws, and insulation pad.
9. Reassemble drip tray, front panel, and cup rest.

Drop-In Installation

1. Install dispenser in counter following standard procedures.
2. Use the Template supplied to mark the location of the hole to be cut into the counter top. Cut the hole as marked and remove the material.
3. Apply the double stick tape (if supplied with the loose shipped parts).

NOTE: To comply with the National Sanitation Foundation (NSF) requirements, the unit must be sealed to the counter top.

4. Liberally apply a sealant, such as Dow Corning RTV 731 or equivalent, to the unit flange bottom surface.
5. Lower the unit into position to complete the seal of the rim to the counter top. Apply additional sealant around the rim to ensure a complete seal.

NOTE: Do not move the unit after positioning or the seal will be broken.

6. Remove any excess sealant.

NOTE: For non-electrical valves, skip the next step.

7. Mount the Transformer power supply under the counter, in a position to allow access to the electrical outlet and to allow the 24V power cord to reach the dispenser.
8. Install the drain hose to the ice bin drain fitting and route the drain hose to a permanent drain.
9. Mount secondary CO_2 regulator, carbonator pump with motor, and valve transformer in a convenient location, no more than 7 feet from the unit.

10. Connect carbonator motor 3 wire plug to the tower 3 wire harness. Connect the tower 2 wire harness to the transformer.

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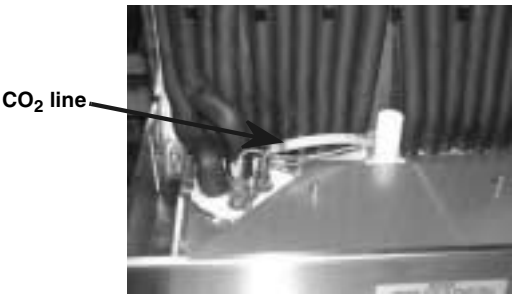
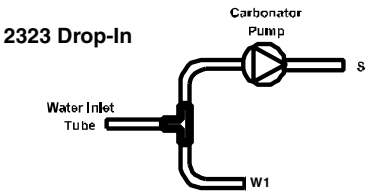
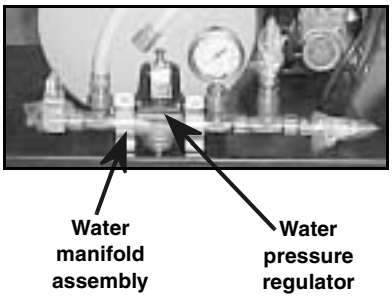
11. Connect CO_2 line from bundled tubing to fixed secondary regulator inlet fitting.
    Connect tubing from secondary regulator outlet to carbonator tank CO_2 inlet.
    Route CO_2 line down center channel raceway with wire harness.



12. For 2323 Drop-In install a tee in water line (must be before pump). Run one line to carbonator pump inlet. Connect carbonator pump outlet to “S”.
13. Connect syrup lines.
14. Connect fittings and drain hoses to ice bin and drip tray drains. Run separate hoses all the way to the drain. Allow a 3” air gap between the drain and the end of the hose. All connections must comply with local plumbing and health codes.



15. Turn water supply on.
    Plug in water booster pump (on BIB rack).
    After the booster pump cycles off, check that water pressure regulator is set at 60 psi.
16. Turn CO_2 source on. Set secondary regulator for BIB pumps (located on side of rack) at 60 psi min. Bleed carbonator.
17. Fill bin with ice.
18. Plug in Pump Motor and valve transformer.
    The carbonator tank should fill in 7 to 12 seconds.
    Open each valve until carbonated water comes out.
19. Connect syrup lines to bag-in-boxes.
    Bleed syrup from each valve.



Free-Standing Dispenser

1. Install the 6” legs to the dispenser cabinet if they are to be used.
2. Place the dispenser in the location selected. Be sure the dispenser is level. This is important to ensure that the bin drains properly.
3. Mount the Transformer power supply in a convenient location to allow access to the electrical outlet and to allow the 24V power cord to reach the dispenser.
4. Install the drain hose to the ice bin drain fitting and route the drain hose to a permanent drain.

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SANITIZING PRODUCT COLD PLATE TUBING

Preparing the Cleaning Solution: Using a clean tank (tank system) or a five-gallon container (bag-in-box system), prepare a full tank or container of liquid dishwasher detergent by using 70°F (21°C) to 100°F (38°C) potable water and 0.5 oz. (15 ml) of liquid dishwasher detergent (such as Joy, Ivory, ect.) to one gallon of potable water. Shake detergent solution to thoroughly mix the solution.

Preparing the Sanitizing Solution: Using a clean tank (tank system) or a five-gallon container (bag-in-box system), prepare sanitizing solution using 70°F (21°C) to 100°F (38°C) potable water and 0.5 oz. (15 ml) of household liquid bleach such as non-scented Hi-Lex or Chlorox that contains a 5.25% sodium hypochlorite concentration to one gallon of potable water. This mixture *must not* exceed 200 PPM of chlorine. Shake sanitizing solution to thoroughly mix.

STEP 1. WASH PRODUCT/SYRUP SYSTEMS

1. Using a clean tank (tank system) or a five-gallon container (bag-in-box system), prepare a full tank or container of liquid dishwasher detergent by using 70°F (21°C) to 100°F (38°C) potable water and 0.5 oz. (15 ml) of liquid dishwasher detergent (such as Joy, Ivory, ect.) to one gallon of potable water. Shake detergent solution to thoroughly mix the solution.

Tank Systems.

- Observe and note CO_2 pressure settings on the tanks CO_2 regulator, then re-adjust CO_2 regulator to 60 to 80-psi. Pressurize the tank containing detergent solution to 60 to 80-psi.
- Connect detergent solution tank, pressurized at 60 to 80-psi, into one of the tubing systems.

Bag-in Box Systems.

- Install bag valves (cut empty bag-in-box syrup containers) on ends of syrup containers syrup outlet tubes connectors.
- Place all syrup outlet tubes, with bag valves on their ends, in container containing detergent solution.

2. Flush the syrup system and dispensing valve as follows:
   - Place waste container under applicable dispensing valve.
   - Activate the dispensing valve for one minute to purge all syrup and flush out the syrup system.
   - Continue to activate the dispensing valve in cycles (“ON” for 15-seconds, “OFF”, then “ON” for 15-seconds). Repeat “ON” and “OFF” cycles for 15-cycles.
3. Connect detergent solution to remaining syrup systems and flush syrup out of syrup systems as instructed in step 2 preceding.
4. Remove detergent solution source from the syrup system.

STEP 2. FLUSH COOLING SYSTEMS

Tank Systems.

1. Connect tank containing potable water, pressurized at 60 to 80-psi, into one of the tubing systems.

Bag-in-Box Syrup System

2. Fill five-gallon container with potable water, then place all bag-in-box syrup containers syrup outlet tubes in container containing potable water.
   - Flush detergent solution out of syrup system and dispensing valve as follows:
   - Place waste container under applicable dispensing valve.
   - Activate the dispensing valve for one minute to purge all detergent solution and flush out of the syrup system.
   - Continue to activate the dispensing valve in cycles (“ON” for 15-seconds, “OFF”, then “ON” for 15-seconds).
3. Connect potable water source to remaining syrup systems and flush detergent solution out of syrup systems as instructed in step A preceding.
4. Remove potable water source from the syrup system.

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STEP 3. SANITIZE COOLING SYSTEMS

1. Using a clean tank (tank system) or a five-gallon container (bag-in-box system), prepare a full tank or container of liquid dishwasher detergent by using 70°F (21°C) to 100°F (38°C) potable water and 0.5 oz. (15 ml) of liquid dishwasher detergent (such as Joy, Ivory, ect.) to one gallon of potable water. Shake detergent solution to thoroughly mix the solution

Tank Systems.

- Connect sanitizing solution tank, pressurized at 60 to 80-psi, into one of the tubing systems.

Bag-in-Box Syrup System.

- Place all bag-in-box syrup containers syrup outlet tubes in container containing sanitizing solution.

2. Sanitize the syrup system and dispensing valve as follows:
   - Place waste container under applicable dispensing valve.
   - Activate the dispensing valve for one minute to purge all water from and install sanitizing solution in the syrup system and dispensing valve.
   - Continue to activate the dispensing valve in cycles (“ON” for 15-seconds, “OFF”, then “ON” for 15-seconds). Repeat “ON” and “OFF” cycles for 15-cycles.
3. Repeat steps to flush water out of and install sanitizing solution in the remaining syrup systems and dispensing valves.
4. Remove sanitizing solution source from the syrup system.
5. Allow sanitizing solution to remain in the syrup systems for not less than 10 or no more than 15-minutes (max.) contact time.

STEP 4. WATER FLUSH SYSTEMS

WARNING: Flush sanitizing solution from the systems as instructed. Residual sanitizing solution left in the systems could create a health hazard.

1. Fill tank (tank system) or a five-gallon container (bag-in-box system) with potable water.

Tank Systems.

- Connect tank containing potable water, pressurized at 60 to 80-psi, into one of the systems.

Bag-in-Box Syrup Systems.

- Place all bag-in-box syrup containers syrup outlet tubes in container containing potable water.

2. Flush sanitizing solution from the syrup system and the dispensing valve as follows:
   - Place waste container under applicable dispensing valve.
   - Activate the dispensing valve for one minute to purge all sanitizing solution out of the syrup system and the dispensing valve.
   - Continue to activate the dispensing valve in cycles (“ON” for 15-seconds, “OFF”, then “ON” for 15-seconds). Repeat “ON” and “OFF” cycles for 15-cycles.
3. Repeat preceding steps to purge sanitizing solution out of the remaining syrup systems and dispensing valves.
4. Remove potable water source from the syrup system.

STEP 5. PURGE WATER (RESTORE OPERATION)

Tank Systems.

1. Noting tanks CO_2 regulator pressure setting observed in step 4 preceding, readjust CO_2 regulator to the observed pressure setting.
   - Connect tanks containing the product into the system.

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Bag-in-Box Syrup Systems.

- Remove all bag valves from bag-in-box syrup containers outlet tubes connectors.
- Connect bag-in-box containers into the syrup system.

2. Place waste container under dispensing valves. Dispense from all dispensing valves to permit syrup to purge all potable water from the syrup systems and the dispensing valves. Continue to dispense from the dispensing valves until only syrup is dispensed from the syrup systems and valves.

WARNING: To avoid possible personal injury or property damage, do not attempt to remove the syrup tank cover until CO_2 pressure has been released from the tank.

3. Dispose of waste sanitizing solution in sanitary sewer, not in storm drain, then thoroughly rinse inside and outside of the container that was used for sanitizing solution to remove all sanitizing solution residue.

CLEANING THE ICE BIN

1. Prepare a mild detergent soap solution in 100°F potable water.
2. Using a nylon (not wire) bristle brush, clean the cold plate and the interior of the ice bin with the soap solution.
3. Rinse the cold plate and interior bin surfaces with clean potable water.
4. Using a mechanical spray bottle, prepare a sanitizing solution according to the manufacture's directions and spray the entire interior bin surfaces. Allow to air dry.

CONNECTING PRODUCT TO THE DISPENSER

NOTE: All inlet connections are clearly marked with a label adjacent to the inlet connections.

NOTE: Always leak check all connections.

Post-Mix units must have syrup, carbonated water and plain water connected. The number of syrups will depend on the number of valves on the dispenser. Refer to the plumbing diagram for details of the hookup.

Pre-Mix units must have a pre-mix supply connected to each inlet for each valve supplied. Refer to plumbing diagram for details of the hook-up.

NOTE: A plumbing diagram when supplied with the unit, can be found in the dispensing tower.

PREPARING FOR OPERATION

On units Without Electrically Operated Valves, Skip Steps 1 and 2 Below

1. Plug transformer into electrical outlet. The 24V supply must be connected in the dispensing tower.
2. Turn the key-switch to the ON position. The ice-bin lid must be closed to allow the valves to operate.
3. Adjust the CO_2 regulators as indicated in the following chart:

Post-Mix	
Regulator	**Pressure Setting**
Primary (Carbonator) feed line to Carb secondary regulator	90-120 PSI
Secondary, Sugared Syrup Tank	55 PSI min.
Secondary, Diet Syrup Tank	8-12 PSI
Secondary, B-I-B	60 PSI min

4. Operate each valve until product is flowing.
5. Fill the bin with 32°F ice. DO NOT use ice taken directly from the freezer.
6. Adjust the brix (water-to-syrup ratio) for post-mix valves.

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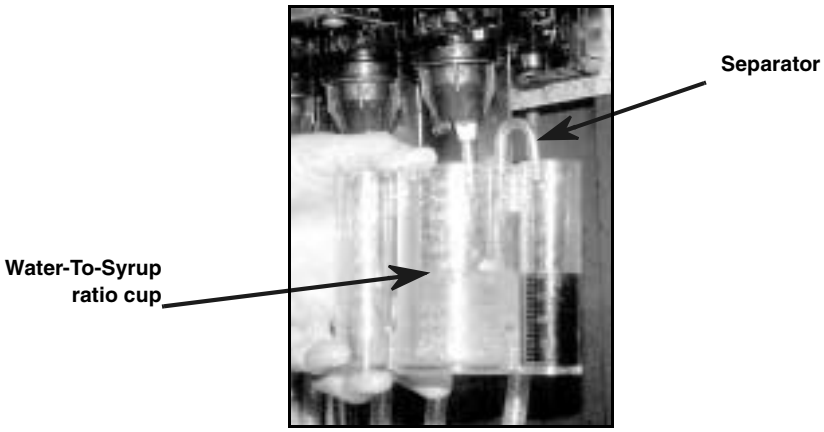
Adjust Water-To-Syrup Ratio



1. Remove valve cover and install syrup separator over the diffuser and through the nozzle.
2. Hold cup under valve and dispense beverage for a specific time (i.e. 2 seconds).
3. NOTE: Water and syrup must be cold before checking ratios.
4. Adjust carbonated water flow to the desired rate (such as 90 to 110 ml (3 to 3.75 oz.) per second). Turn the flow adjuster 1/4 of a turn at a time and recheck the flow. To increase reading turn clockwise.
5. Set syrup flow adjuster to get the desired ratio.
6. Test the valve and adjust until a consistent ratio is delivered three consecutive times.
7. Repeat procedure for other valves.

Valve Type	
Manufacturer	**Maximum Operating Pressure**
Portion Control	
Cornelius	130 psi
Flowmatic	100 psi
Pushbutton	
Cornelius	130 psi
Flowmatic	100 psi
Lever Type	
Cornelius	130 psi
Flowmatic	100 psi
Autofill Lever	
Cornelius	130 psi
Flowmatic	100 psi
Non-Electric	
Cornelius	130 psi

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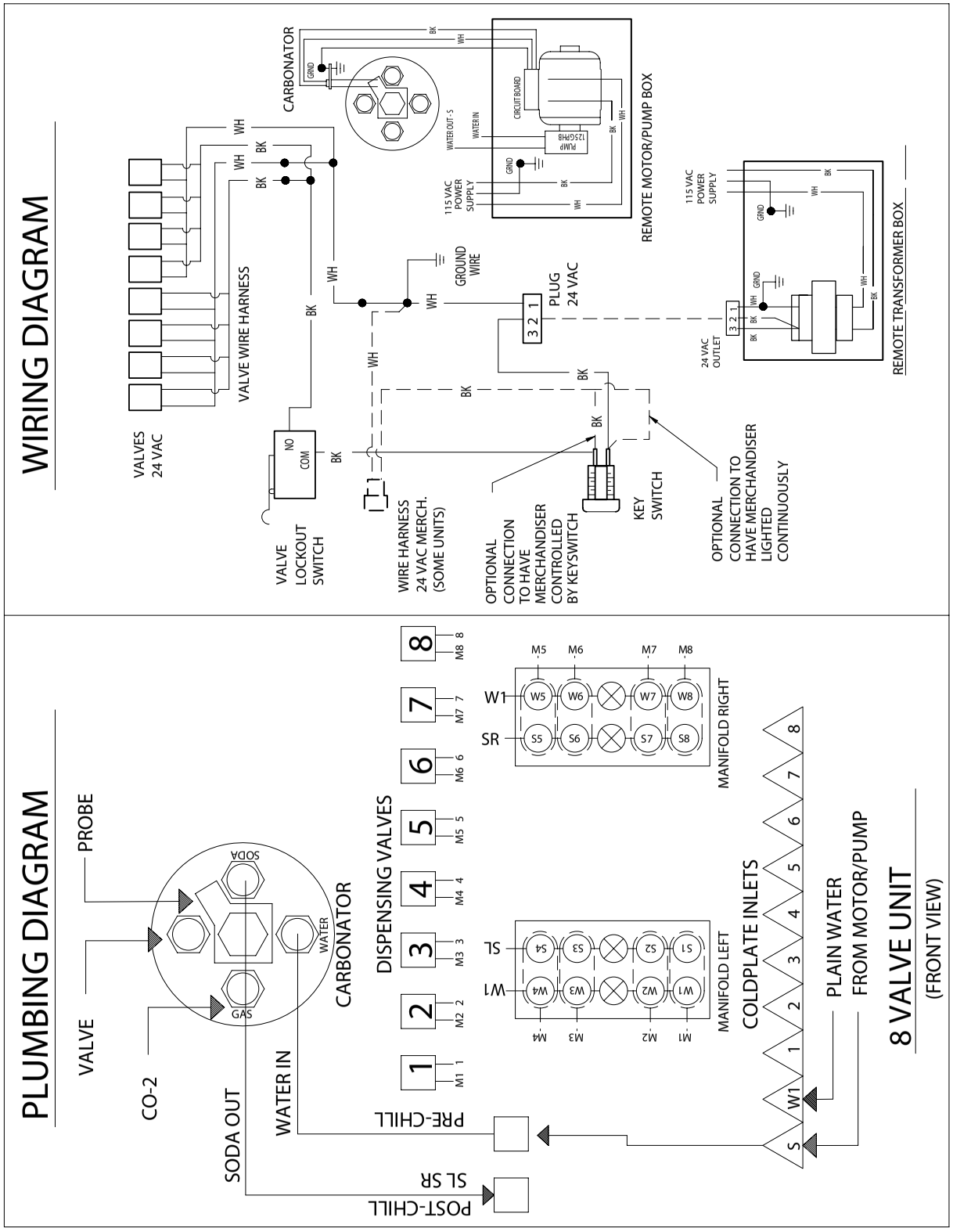
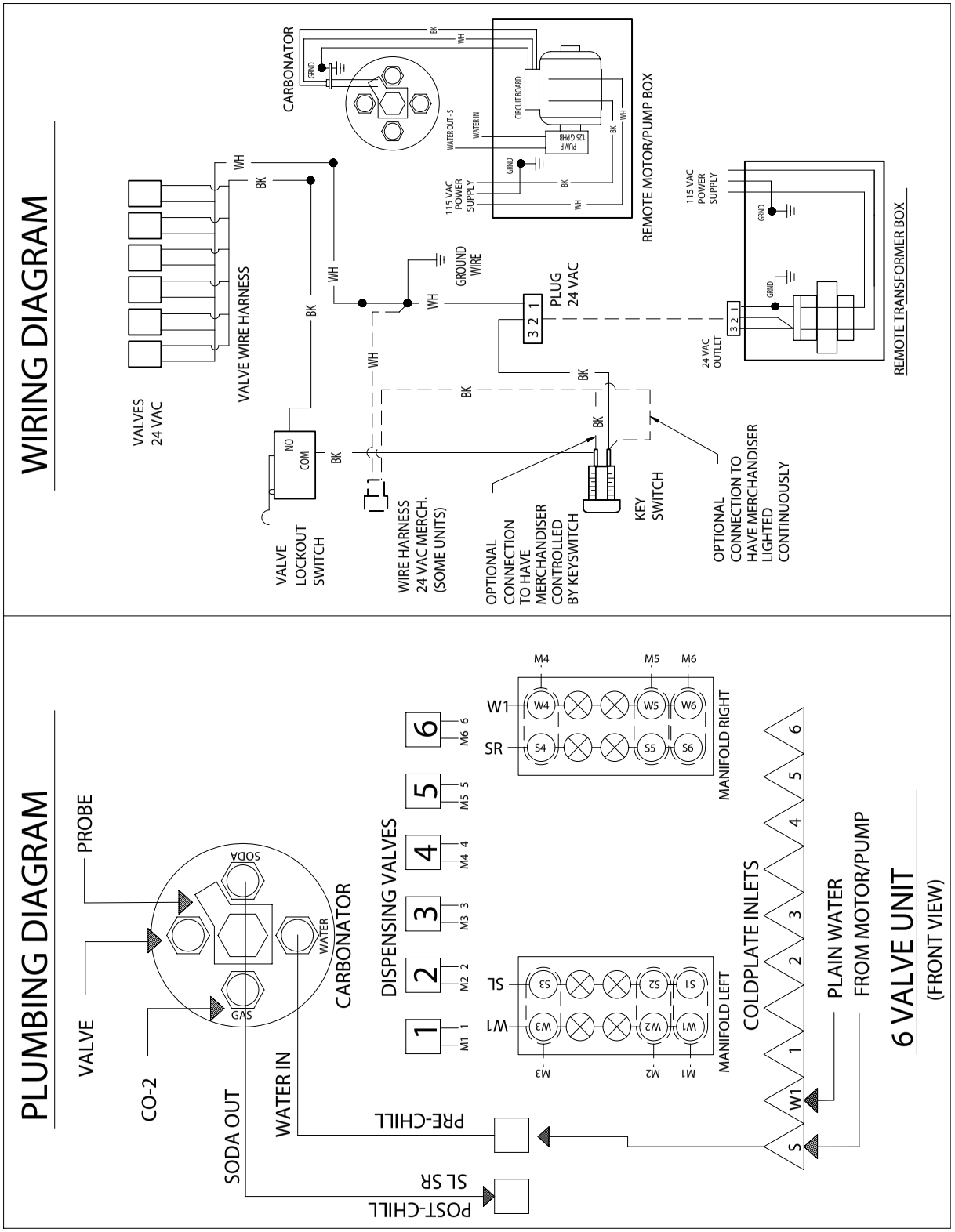
Cold Plate Plumbing & Wiring Diagram for CB2323 & CB3023 8 Valve



Cold Plate Plumbing & Wiring Diagram for CB2323 6 valve



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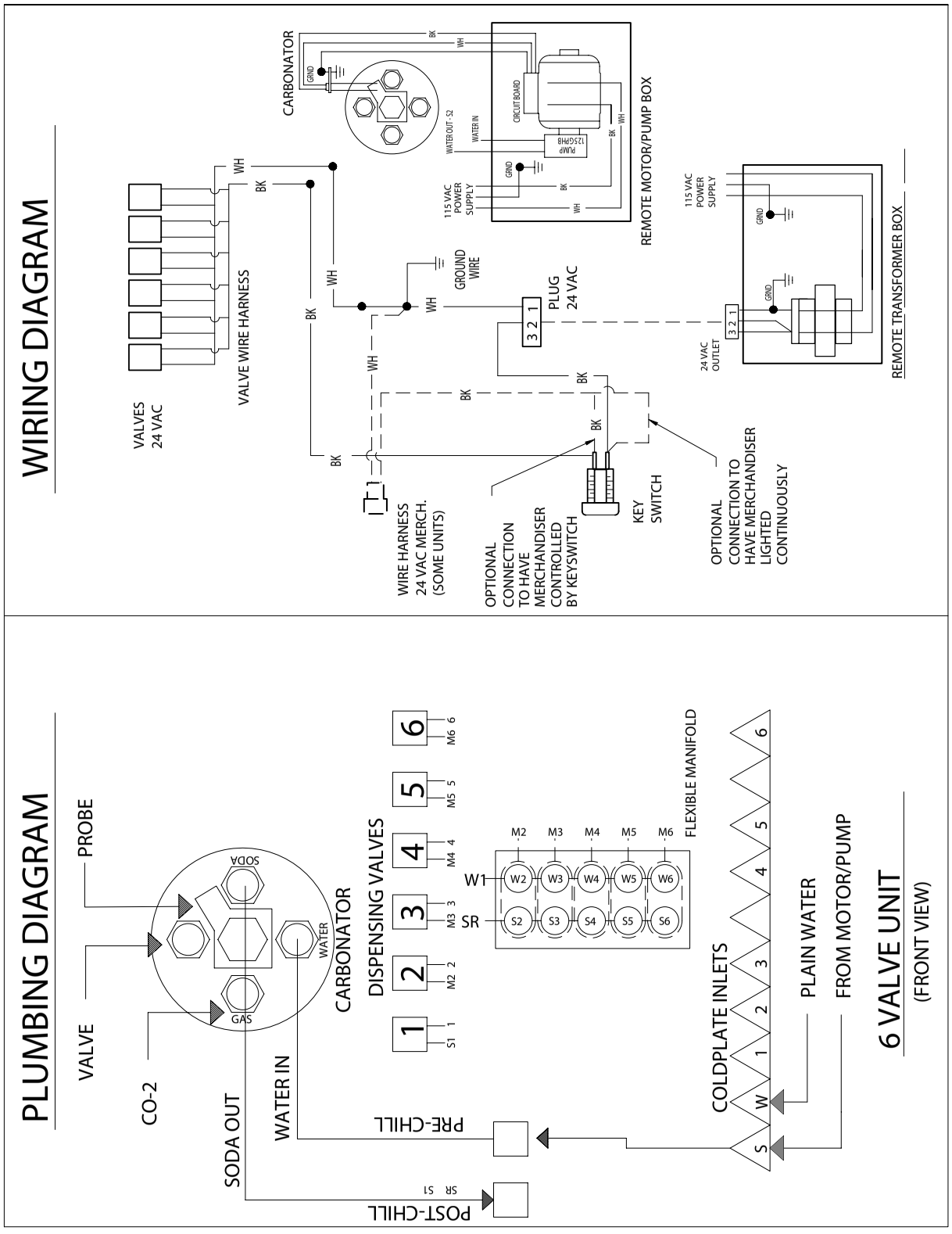
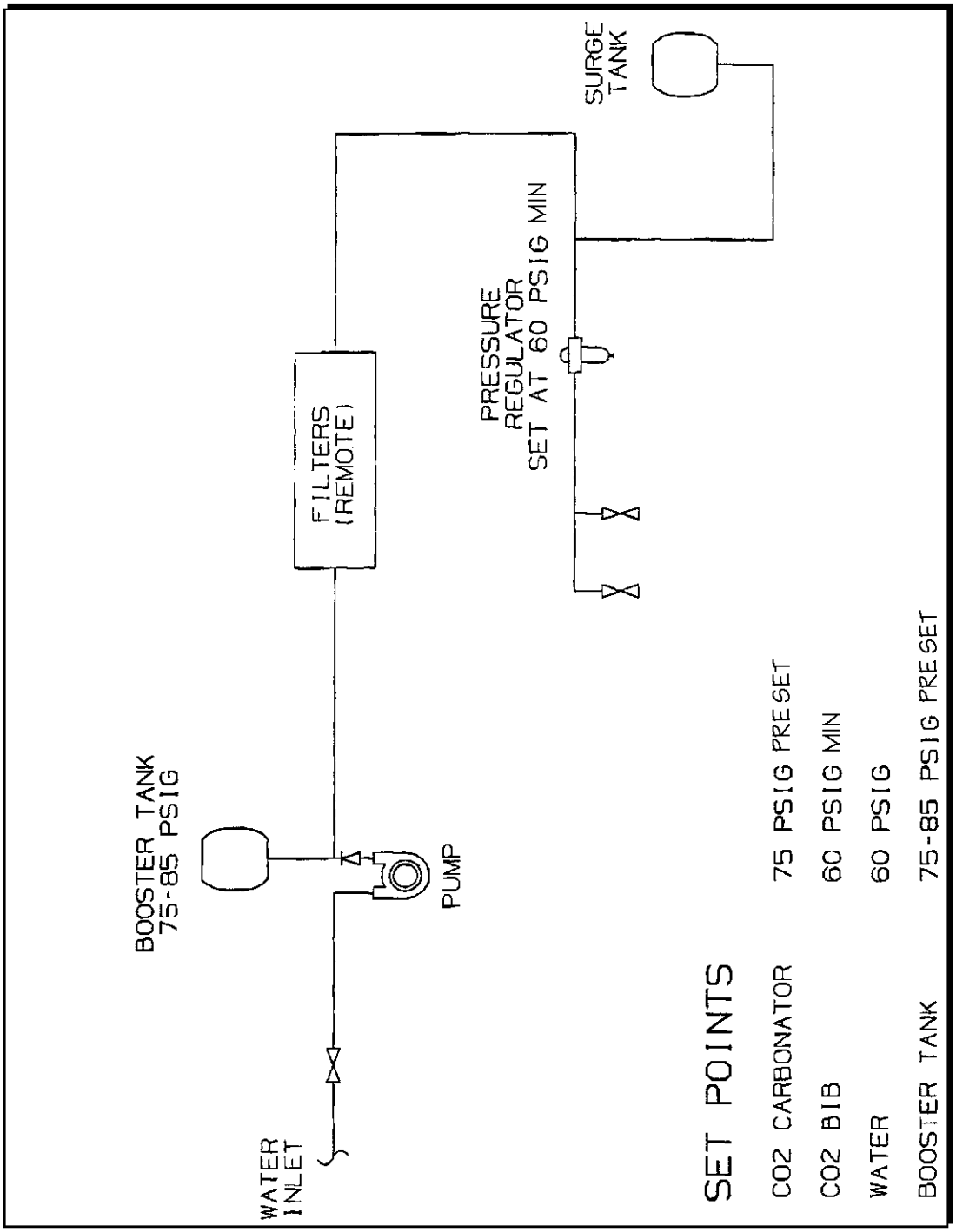
Cold Plate Plumbing & Wiring Diagram for CB1522 6 Valve



IntelliCarb Back Room Plumbing and Settings



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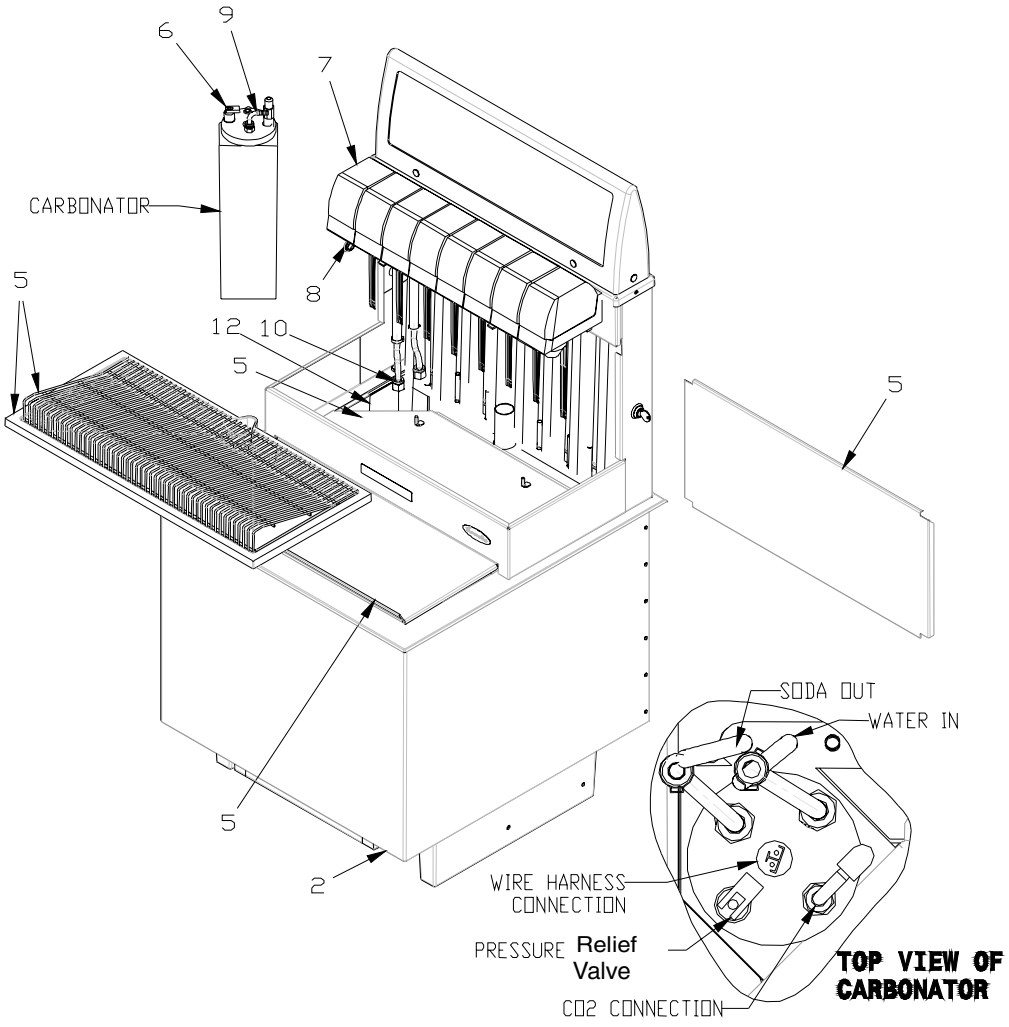
Removal and Installation of Carbonator



Carbonator Removal

1. Remove ice from bin.
2. Disconnect the power to the unit and to the pump and motor.
3. Shut off the CO_2 supply that is connected to the Carbonator.
4. Shut off the water supply that is connected to the pump and motor.
5. Remove Cup Rest, Splash Panel, Drip Tray, Sliding Lid and Sanitary Plate.
6. Relieve pressure in the system by flipping the pressure relief valve to the up position on the Carbonator.
7. Remove front cover, back cover and valve body of No. 8 (left side).
8. Remove the plug button on the left side of tower and cover hole with tape (safety).
9. Disconnect the barb fitting for the CO_2 line on Carbonator.
10. Disconnect the barb fitting on the Carbonator lines to the coldplate tubes.
11. Disconnect probe wire from pump and motor harness.
12. Cut the silicone seal with putty knife around Carbonator a minimum of 1.5” deep and remove.

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Carbonator Installation

1. Clean around Carbonator tank opening removing all silicone, and make sure cavity is clean and dry.
2. Place new Carbonator in place of the old one.
3. Reconnect probe wire harness to pump and motor.
4. Seal top of Carbonator with silicone.
5. Connect the CO_2 line from the barbed fitting Carbonator and tighten to 80+/- 10 in pounds (Note: replace white gasket).
6. Reconnect the Carbonator lines to the Carbonator.
7. Reinstall valve body, back cover and front cover of the valve No. 8 to unit.
8. Turn on the CO_2 supply that is connected to the Carbonator.
9. Turn on the water supply that is connected to the pump and motor.
10. Reconnect the power to the unit and to the pump and motor.
11. Test system and pump and motor for leaks.
12. Apply insulation tape as needed to cover tubes on Carbonator.
13. Remove and clean all foreign substance from bin and replace ice.
14. Replace Sanitary Plate, Sliding Lid, Drip Tray, Splash Panel and Cup Rest.

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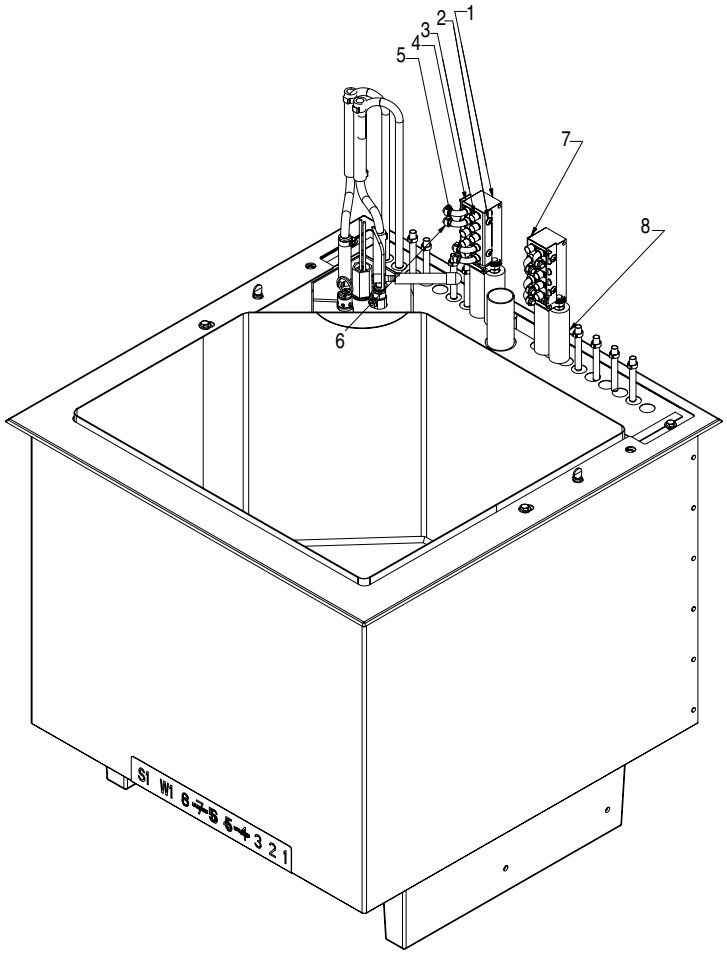
MANIFOLD PARTS BREAKDOWN (1522, 2323, 3023)



Item No.	Part No.	Name	Qty.
1	620407728	MANIFOLD FLEX 5 POS	2
2	164126000	SCREW SM 08 TA TRPH 16 SS	10
3	620519005	PLUG MANIFOLD	12
4	630201533	BRKT MANIFOLD BLOCK	2
5	77051500	FITG-VAL DOLE ELB 102 DEGREE	8
6	309854000	CLAMP OETR 413 OPEN STPLS #10.5	8
7	630201532	BRKT RETAINER MANIFOLD	2
8	630600024	HOSE .375 B 5.00” C-PLT TO MANIFOLD BLOCK	4

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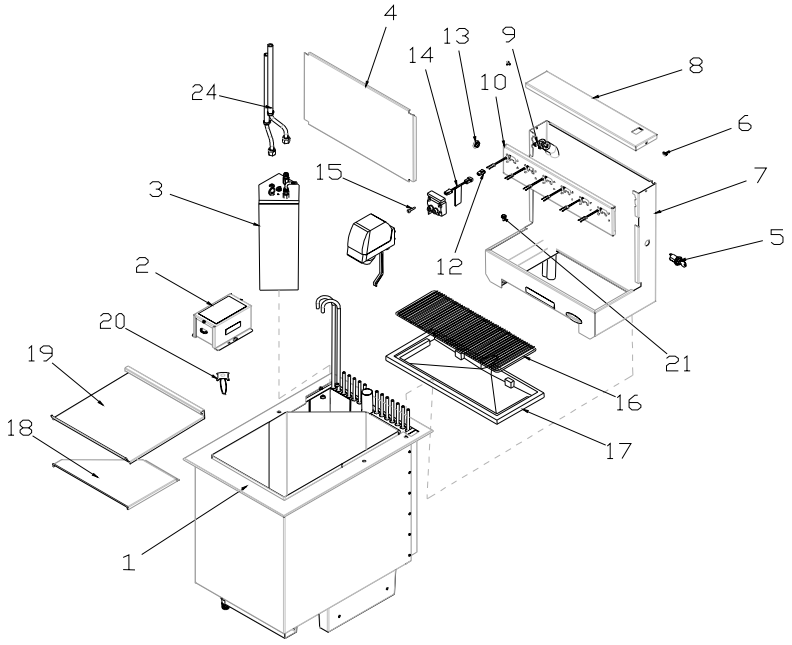
CB 1522 IntelliCarb Stainless Tower 75lb with 12 x 4 Carbonator



Item No.	Part No.	Name	Item No.	Part No.	Name
1	630201449	Frame Dec CB1522	14	630300373	Harn Wire Jumper (Opti-Fill™ only)
2	630000601	Transfrmr 115/24 RMT 75VA	15	318308000	Screw TR 10-32 PAPH 32 SS HRD
3	630001125	Tank Carb Foam Asy 4X12	16	630200858	Cup-Rest CB1522 Opti (Opti-Fill™ only)
4	167491001	Splashguard Panl SBR TWR GE		167787000	Cup-Rest 1522SST STND
5	163545001	Switch Key-Lock Termi	17	630900910	Drip-Tray 18” 1522 IntelliCarb
6	161168014	Screw Ma 1032 012TR SS PH	18	630001101	Plate Sanitary 75# Intelli-Carb
7	630000794	Tower W/A 18” SS BLT DN 1522	19	630001100	Lid Sliding 1522 Intelli-Carb
8	167244008	Cover TWR 18.5 x 3.5 SS	20	162865010	Strainer Corner Drain W/A
9	162968004	Hose 0.265F 16”	21	168745001	Bolt MA 1/4-20 HX 16 STZI
10	630201568	Panel 6VLV 18” SS TWR	22	630300341	Harn Wire TWR 96” 2 CR 25R
11	630300344	Harn Wire 6VLV 2CR 3.50SPC	23	629087457	Pump Asy MTR
12	163518000	Conn Elec Mate-N-Lok 2CR	24	630000952	Hose Asy Carb to C-PLT S-Tube 1522
13	168462002	Plug-Butn 1/2 Hole STNI SWC	25	630201516	Lid Top 1522 Sliding (not shown)

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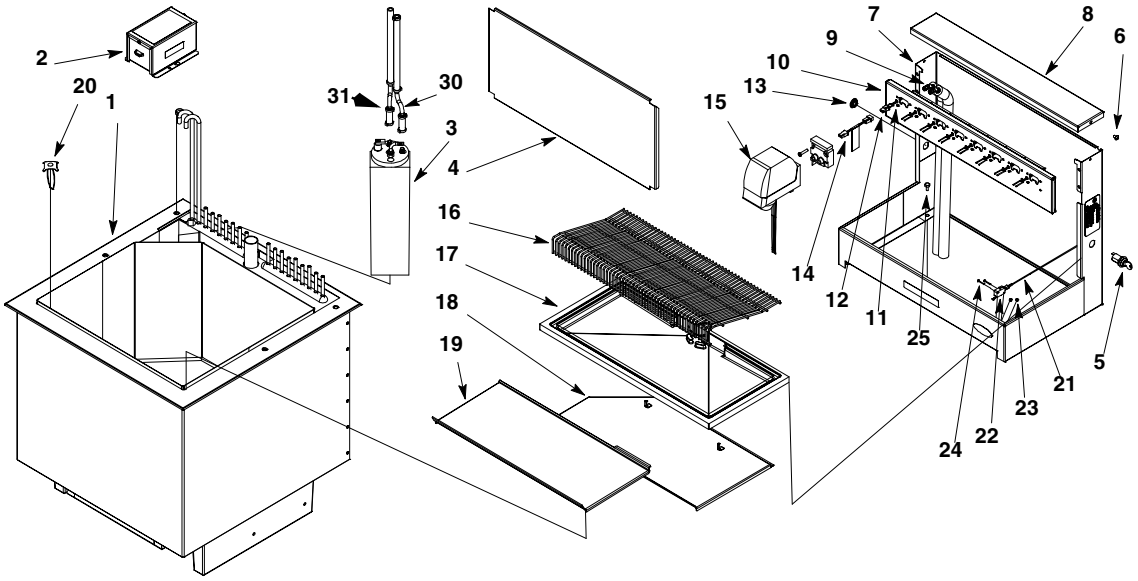
CB 2323 IntelliCarb Stainless Tower 100lb with 12 x 4 Carbonator



Item No.	Part No.	Name	Item No.	Part No.	Name
1	630201423	Decorative Frame	16	630900042	Cup Rest, Grille (Opti-Fill™)
2	630000601	Transformer Ass'y, 115/ 24V RMT 75V		167787002	Cup Rest (Standard)
3	630001125	Carbonator (12 X 4)	17	630150005	Drip Tray
4	167491003	Panel, Splash	18	630001129	Plate, Sanitary
5	163545001	Switch, Key Lock	19	630200832	Lid, Sliding
6	161168014	Machine Screw, Phil Truss Hd., No. 10-32 By 3/8-In. Long	20	162865010	Strainer
7	630000631	Tower	21	630300357	Lead Wire, Black)
8	167244007	Cap, Tower	22	167570001	Switch, Valve Lockout
9	162968004	Hose, .265 I.D.	23	21633	Hex Nut, No. 4-40
10	630201561	Panel Valve, 6-Flavor	24	21632	Machine Screw, Rd Hd, No. 4-40 By 3/4-In. Long
	630201551	Panel Valve, 8-Flavor	25	168745001	Machine Screw, 1/4-20 By 1/2-In. Long
11	630300344	Wire Harness, 6-Flavor	26	630300341	Wire Harness, Power Supply to Tower
	630300345	Wire Harness, 8-Flavor	27	41710	Fitting, 3/4-MPT By 3/4-Barb
12	163518000	Connector, 2 Circuit	28	161508006	Fitting, 3/4-FPT By 3/4-Barb
13	168462000	Button Plug	29	629087457	Pump and Motor with Double Check Valve
14	630300373	Wire Harness (Opti-Fil Valves only)	30	630000951	Hose Ass'y, Carb to Cold Plate
15	318308000	Thread Rolling Screw, Phil Pan Hd., No. 10-32 By 1-In. Long	31	630000952	Hose Ass'y, Carb to Cold Plate S-Tube

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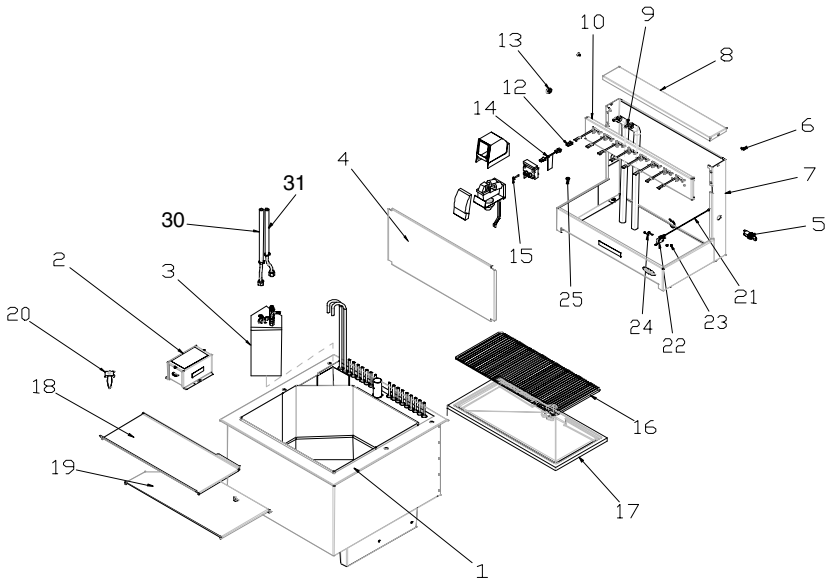
CB 2323 IntelliCarb Stainless Tower 80lb with 8 x 4 Carbonator



Item No.	Part No.	Name	Item No.	Part No.	Name
1	630201423	Decorative Frame	16	630900042	Cup Rest, Grille (Opti-Fil)
2	630000601	Transformer Ass'y, 115/ 24V RMT 75V		167787002	Cup Rest (Standard)
3	630001124	Carbonator (8 X 4)	17	630150005	Drip Tray
4	167491003	Panel, Splash	18	630001129	Plate, Sanitary
5	163545001	Switch, Key Lock	19	630200832	Lid, Sliding
6	161168014	Machine Screw, Phil Truss Hd., No. 10-32 By 3/8-In. Long	20	162865010	Strainer
7	630000631	Tower	21	630300357	Lead Wire, Black)
8	167244007	Cap, Tower	22	167570001	Switch, Valve Lockout
9	162968004	Hose, .265 I.D.	23	21633	Hex Nut, No. 4-40
10	630201561	Panel Valve, 6-Flavor	24	21632	Machine Screw, Rd Hd, No. 4-40 By 3/4-In. Long
	630201551	Panel Valve, 8-Flavor	25	168745001	Machine Screw, 1/4-20 By 1/2-In. Long
11	630300344	Wire Harness, 6-Flavor	26	630300341	Wire Harness, Power Supply to Tower
	630300345	Wire Harness, 8-Flavor	27	41710	Fitting, 3/4-MPT By 3/4-Barb
12	163518000	Connector, 2 Circuit	28	161508006	Fitting, 3/4-FPT By 3/4-Barb
13	168462000	Button Plug	29	629087457	Pump and Motor with Double Check Valve
14	630300373	Wire Harness (Opti-Fil Valves only)	30	630000952	Hose Ass'y, Carb to Cold Plate
15	318308000	Thread Rolling Screw, Phil Pan Hd., No. 10-32 By 1-In. Long	31	630000951	Hose Ass'y, Carb to Cold Plate

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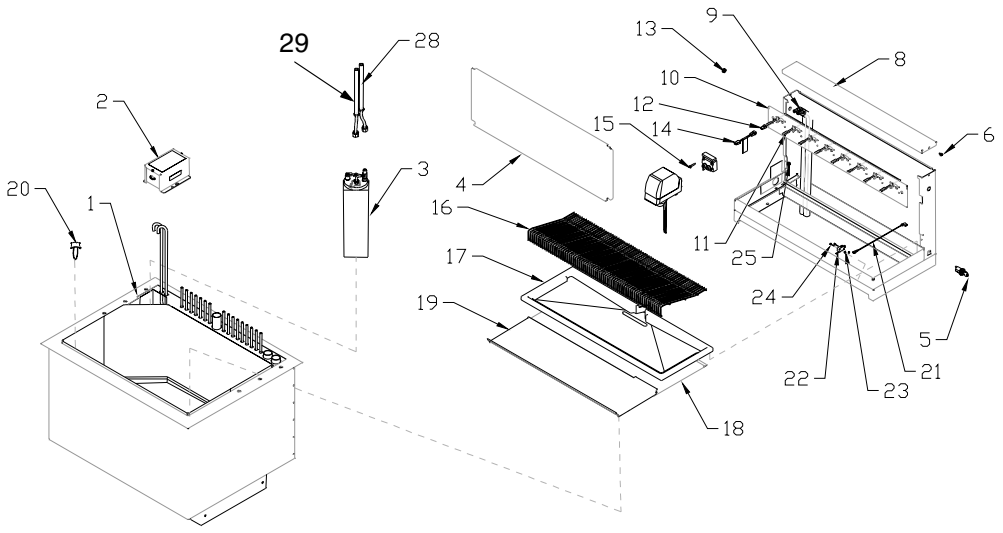
CB 3023 IntelliCarb Stainless Tower 130lb with 12 x 4 Carbonator



Item No.	Part No.	Name	Item No.	Part No.	Name
1	630201420	Frame Dec CB3023	16	167787013	Cup-Rest CB3023 Opti (Opti-Fill™ only)
2	630000601	Transfrmr 115/24 RMT 75VA		167787007	Cup-Rest 3023SST STND
3	630001125	Carbonator Tank Assy	17	167481019	Drip-Tray 30” TWR BLK
4	167491009	Splashguard Panl 30” SST	18	630000658	Plate Sanitary W/A 30” IntelliCarb
5	163545001	Switch Key-Lock Termi	19	630200933	Lid SLI 3023 IntelliCarb
6	161168014	Screw Ma 1032 012TR SS PH	20	162865010	Strainer Corner Drain W/ A
7	630000847	Tower W/A 30” SS	21	630300357	Lead Wire 22” BK 20G2 187-250
8	167244011	Cover TWR 30” SS TWR	22	167570001	Switch Val Lock-Out
9	162968004	Hose 0.265F 16”	23	21633	Nut Hex 04-40 STZI
10	630001123	Panel Val CB3023 W/A	24	21632	Screw MA 04-40 RD 24 STZI
11	630300345	Harn Wire 8VLV 2CR 2.56SPC	25	168745001	Bolt MA 1/4-20 HX 16 STZI
12	163518000	Conn Elec Mate-N-Lok 2CR	26	630300341	Harn Wire TWR 96” 2CR 25R
13	168462002	Plug-Butn 1/2 Hole STNI SWC	27	629087457	Pump Asy Mtr
14	630300373	Harn Wire Jumper (Opti-Fill™ only)	28	630001001	Hose Asy Carb to C-Plt S-Tube
15	318308000	Screw TR 10-32 PAPH 32 SS HRD	29	630001006	

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TROUBLESHOOTING

Trouble	Probable Cause	Remedy
ADJUSTMENT OF DISPENSING VALVE SYRUP FLOW REGULATOR DOES NOT INCREASE TO DESIRED WATER-TO-SYRUP "RATIO"	A. Dispensing Valve syrup flow regulator, syrup tank quick disconnect, or syrup line restricted. B. Syrup tank quick disconnects not secure. C. Syrup tanks secondary CO_2 regulator out of adjustment. D. No syrup supply. E. Improper syrup Baume. F. Dirty or inoperative piston or spring in dispensing valve syrup flow regulator. G. Tapered nylon washer inside tube swivel nut connector distorted from being overtightened.	A. Sanitize syrup system as instructed. B. Secure quick disconnects. C. Adjust syrup tanks secondary CO_2 regulator as instructed. D. Replenish syrup supply. E. Replace syrup supply. F. Disassemble and clean dispensing valve syrup flow regulator. G. Replace nylon washer and make sure it seats properly.
ADJUSTMENT OF DISPENSING VALVE SYRUP FLOW REGULATOR DOES NOT DECREASE TO DESIRED WATER-TO-SYRUP "RATIO"	A. Dirty or inoperative piston or spring in dispensing valve syrup flow regulator.	A. Disassemble and clean dispensing valve syrup flow regulator.
DISPENSED PRODUCT CARBONATION TOO LOW	A. Air in carbonator tank. B. Water, oil or dirt in CO_2 supply	A. Vent air out of carbonator tank through relief valve. Actuate dispensing valve carbonated water lever to make carbonator pump cycle on. B. Remove contaminated CO_2. Clean CO_2 system (lines, regulators, ect.) using a clean CO_2 supply.
DISPENSED PRODUCT COMES OUT OF DISPENSING VALVE CLEAR BUT FOAMS IN CUP OR GLASS.	A. Oil film or soap scum in cup or glass. B. Ice used for finished drink is sub-cooled.	A. Use clean cup or glass. B. Do not use ice directly from freezer. Allow ice to become "wet" before using. (Refer to following NOTE).
NOTE: Crushed ice in the glass also causes dispensing problems. When finished drink hits sharp edges of ice, carbonation is released from dispensed drink.		
	C. Syrup over-carbonated with CO_2 as indicated by bubbles in inlet syrup lines leading to unit. D. Warm product-No ice in bin, bridged ice on cold plate or plugged drain.	C. Remove syrup tanks quick disconnects. Relieve tank CO_2 pressure, shake tank vigorously, then relieve tank CO_2 pressure as many times as necessary to remove over-carbonation. D. Replenish ice, break ice up to eliminate bridging, unplug the drain.

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Trouble	Probable Cause	Remedy
NOTE: If water supply is dirty, be sure to flush lines and carbonator completely. It may be necessary to remove lines to carbonator tank. Flush tank and all inlet lines to remove any foreign particles or dirt.		
NO PRODUCT DISPENSED FROM ONE DISPENSING VALVE	A. Broken or disconnected wiring. B. Inoperative dispensing valve solenoid coil. C. Inoperative dispensing valve micro switch.	A. Repair or connect wiring. B. Replace solenoid coil as instructed. C. Replace micro switch as instructed.
ONLY CARBONATED WATER DISPENSED.	A. Quick disconnects not secure on syrup tanks. B. Out of syrup. C. B-I-B connectors not properly connected. D. Syrup secondary CO_2 regulator not properly adjusted. E. Inoperable dispensing valve. F. Dispensing valve syrup flow regulator not properly adjusted. G. Dispensing valve syrup flow regulator, syrup tank quick disconnect, or syrup lines restricted.	A. Secure quick disconnects on syrup tanks. B. Replenish syrup supply as instructed. C. Properly attach the connectors. D. Adjust syrup tanks secondary CO_2 regulator as instructed. E. Repair dispensing valve. F. Adjust dispensing valve syrup flow regulator (Water-to Syrup “Ratio”) as instructed. G. Sanitize syrup system as instructed.
ONLY SYRUP DISPENSED	A. Plain water inlet supply line shutoff valve closed. B. Carbonator power cord unplugged from electrical outlet.	A. Open plain water inlet supply line shutoff valve. B. Plug carbonator power cord into electrical outlet.

TROUBLESHOOTING for Carbonator

Trouble	Probable Cause	Remedy
PUMP MOTOR WILL NOT RUN	A. Locked pump rotor-dirt or pipe compound in pump; pump seized. B. Carbonator flooded. C. No power.	A. Remove and check for free rotation or replace. Also check CO_2 supply, faulty single check valve, liquid level control or probe. B. Main water supply pressure higher than CO_2 pressure within the carbonator. If maximum water supply pressure is within 20 PSI of CO_2 pressure, install water pressure regulator. C. Check source of electrical supply and for loose connections.

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TROUBLESHOOTING for Carbonator		
Trouble	**Probable Cause**	**Remedy**
PUMP RUNS CONTINUOUSLY	A. Pump water supply restricted.	A. Check water filter and pump inlet strainer and clean. NOTE: Noisy pump operation usually indicates restricted water supply. Also check for faulty double check valve, water leak or low pump bypass.
	B. Pump discharge line restricted.	B. Water inlet check valve may be plugged. Remove, clean, or replace rubber O-Rings.
	C. Inefficient or worn pump.	C. To test for efficiency, disconnect discharge line from pump. Connect a 300 pound gauge and hand shut off valve to pump discharge. Start pump. Bleed off any air, close hand valve then observe pressure. If it is approximately 180 PSI, pump is O.K. If it is significantly below 180 PSI, it may be increased by adjusting the pump by-pass. Increasing the by-pass is accomplished by removing sealing acorn cap and turning the adjusting screw in. If pressure rises to 180 PSI, pump is O.K. If it is still below 150 PSI, and the screw is turned all the way in, the pump is worn. Replace. NOTE: Abadly worn pump and/or premature failure usually indicates foreign material in the supply water. Install a water filter in supply line. Also check for faulty liquid level control, corroded electrode, or broken pump shaft.
	D. Overdrawing.	D. Check capacity of pump. The combined rate of flow from dispensing valves should not exceed the stated GPH for pump, or pump will run continuously.
NOISY PUMP	A. Bad motor bearings or worn pump shaft.	A. Repair or replace motor.
	B. Failure of Triac on liquid level control.	B. Repair or replace liquid level control.
	C. Insufficient water supply.	C. Check that water supply is on. Also check for clogged water filter, ruptured tank or bad double check valve.

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TROUBLESHOOTING for Carbonator		
Trouble	**Probable Cause**	**Remedy**
VALVE DELIVERS CO_2 GAS CONTINUOUSLY	A. Pump motor will not run. B. Pump water supply restricted. C. Relief valve venting. D. Worn pump.	A. See *PUMP MOTOR WILL NOT RUN.* B. Clean strainer. Check for faulty double check valve. C. Repair or replace. D. See *PUMP MOTOR WILL NOT STOP.*
VALVE DELIVERS SODA WATER AND CO_2 GAS INTERMITTENLY	A. Pump water supply restricted. B. Relief valve venting. C. Inefficient or worn pump.	A. Clean strainer. Check for faulty single check valve, clogged water filter, water supply off or blocked, ruptured tank, faulty liquid level control or double check valve. B. Replace or repair. C. See *PUMP MOTOR WILL NOT STOP.*
POOR CARBONATION	A. Flooded carbonator. B. Water temperature too high (warm). C. Oil in water supply. D. Supply water containing too much air in solution. E. Poor quality paper cups. F. Dirty or greasy glassware. G. Excessive foam. H. Flat drinks.	A. See *PUMP MOTOR WILL NOT RUN.* B. Check water inlet temperature. Lower temperature provides better carbonation. C. Check pipe thread compound. Remove and clean and replace with teflon pipe thread tape. D. To remove air before it enters pump, it will be necessary to install an open tank with float to control water level. E. Purchase quality cups made for this application. F. Wash all glassware. G. CO_2 BIB pump pressure too high, contamination within the beverage system, poor quality paper cups or dirty glassware. H. Draw drinks against side of glass or cup. Check for insufficient CO_2 contamination, bad check valve, ruptured CO_2 line

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TROUBLESHOOTING		
Trouble	**Probable Cause**	**Remedy**
DRINK HAS OFF-TASTE OR ODOR (WATER CONTAMINATION)	A. Leaking check valves.	A. Replace O-Rings in double check valve or replace double check valve. See check valve installation instruction section.
	B. Too much plumbers pipe compound on pipe joints.	B. Remove pipe compound and clean joints. Use Teflon pipe thread tape.
	C. Soda water and beverage lines made of brass or copper.	C. Carbonated water reacts with brass or copper and should not be dispensed through lines of this material. Replace lines with stainless steel or beverage grade plastic.
	D. High chlorine level.	D. Install water filter to eliminate chlorine in excess of 1.5 ppm. Use type that do not remove all chlorine.
	E. Tank corrosion.	E. Replace tank.
	F. Contaminated CO_2	F. Check that CO_2 is beverage grade.

WARRANTY

IMI Cornelius Inc. warrants that all equipment and parts are free from defects in material and workmanship under normal use and service. For a copy of the warranty applicable to your Cornelius product, in your country, please write, fax, or telephone the IMI Cornelius office nearest you. Please provide the equipment model number and the date of purchase.

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